Evelyn Ding, PhD

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**Objective**

Seek a Data Scientist/Data Analyst/Machine Learning Engineer Position

**Qualifications**

* PhD in Electrical Engineering with emphasis on Advanced Process Control Engineering (APC)
* Strong programming and simulation skills in developing optimization/multi-variable models using MATLAB
* Strong mathematical background on industrial process modeling and simulation
* Professional Experience
* Data science certificate (in progress) – Springboard Data Science bootcamp
* 3+ years’ experience in programming/developing multi-variable optimization algorithms to improve chemical production
* 9+ years’ experience in engineering projects design and customers interface
* Data Science Skills

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| --- | --- |
| * **Language:** Python, Matlab, R, Bash * **Package:** Pandas, Numpy, Scikit-Learn, Seaborn, Scipy, Tensor * **Statistics:** A/B Testing, Probability Distribution, EM * **Machine Learning:** Random Forest, Classifier, Regression, NN | * **Tools:** Git/Github, SPSS, Linux * **Database:** MySQL, Oracle SQL, PostgreSQL * **Visualization:** Matplotlib, Tableau * **Reporting:** MS Office Suite |
| Clustering, Neural Network, NLP |  |

* Related projects:
* Bioinformatics Allele Combination Prediction project (PCA, Binomial/Beta Distribution, EM Algorithm)
* Financial Risk Bankruptcy Prediction project (Neural Network, Logistic Regression, Naïve Bayes, Radom Forest)
* Skii Resort Ticket Pricing Prediction project (Linear Regression, Random Forest, R/MAE/MSE score)
* London Housing 32 boroughs Pricing Analysis Over 20 years (Dictionaries, Pandas, EDA)
* Soft Skill:
* An excellent sense of communication and collaboration
* A strong commitment to working with customers and project specifications to deliver cost-effective results in a fast-paced environment
* United States Citizen

**Education**

* **UNIVERSITY OF SHEFFIELD, Sheffield, UK**

*PhD in Electrical Engineering,* July 2010

~ Dissertation: Computational Efficiency of Model Predictive Control (optimization/multi-variable control implemented in fast/dynamic systems especially for oil and petrochemical industry)

~ Honor: Overseas Research Scholarship (ORS) Award (United Kingdom government scholarships for international research student of outstanding merit)

* **UNIVERSITY OF SCIENCE AND TECHNOLOGY BEIJING (USTB), Beijing, China**

*BS in Electrical Engineering,* June 2004

~ Honor: Dean’s Medal, the highest honor for the most excellent top 10 students in School of Information Engineering, USTB

~ Award: Second Prize, Nationwide Mathematics Modeling Competition for college students

**Work Experience**

* **Heristar, Houston, TX – *Bioinformatic Data Scientist*** 11/2020 – Present

As a core data scientist, developed statistics models for core business logic, and conducted advanced data analytics to optimize business solutions for noninvasive SNP gene detection.

* + - * Applied statistics/machine learning methods (hidden markov model, EM algorithm, maximum likelihood) in python to model and analyze 2000+ (features) pregnant women and fetus sequencing data on 2300 SNP locus of each sample to identify abnormal chromosomes.
      * Implemented PCA, median polish, various outlier removal methods, data normalization methods, and normal/Beta/binominal distributions to analyze SNP location depth and fetus ratio to improve the accuracy. Compared the difference between plasma and blood data to tune the model parameters.
      * Automated model building/deployment/visualization using python to evaluate data and deliver accurate and actionable predictive models to the executive team.
* **ExxonMobil, Baytown, TX - *Application Software Engineer*** 01/2019 – 11/2020

As a core application software engineer, developed optimization/multi-variables models to improve cooling efficiency for the most expensive equipment (multi-stages reactors), resulting in ~$5M in raw material saving per year.

* + - * Daily application/software support/troubleshooting for chemical production.
      * Developed new application and maintain existing programs/models.
      * Led the new optimization /multi-variables model development project/deployed/parameters tuned/maintained.
      * Developed two new tools for better flare monitoring per environmental requirement, reducing analytics time from 6+ hours to <10 minutes.
* **Dow Chemical, Houston, TX - *Advanced Process Control Software Engineer*** 08/2018 – 01/2019

As a core advanced automation software engineer, developed optimization/multi-variables models to maximize the production of olefins production, including the development of 2 new models and the maintenance of 2 existing models, resulting in ~$20M increase in production per year.

* + - * Support safety and application/programs and led the new projects for oilfins production*.*
      * Worked as SME from main technology center of EOEG/Amine and Oxygenated Solvent business unit*.*
* **ENGlobal, Houston, TX - *Chief Automation Engineer*** 02/2018 – 08/2018
  + - * Led in MCC Building Electrical System Design for Exxon Pipeline Company, San Antonio.
      * DCS Automation System Cross Platform Study (Honeywell, Rockwell, Emerson Platform Comparison Project).
      * Led in DCS Migration Revamp Project of Sasol Green Bayou*.*
      * Led in Proposal/Estimation of CEMS Analyzer Package for P66 Alliance Refinery*.*
* **Technip, Houston, TX - *Senior Control Systems/Telecommunication Engineer*** 11/2013 – 02/2018

As a senior control systems/telecommunication engineer, supported various of engineering projects from study phase to detailed design phase. Developed various engineering design specification for new products/design, from ~$50+M to ~$1+B projects. Also, interfaced with clients and third-party vendors for troubleshooting and project management.

* + - * Participated in detailed design of EO/EG project for Sasol*.*
      * Participated in FEED design of Northwest Methanol *project for Northwest Innovation Works.*
      * Participated in detailed design of USGC Petrochemicals *project for Chevron Phillips Chemical.*
      * Participated in FEED design, estimating and proposal for green & brown fields of *Lake Charles LNG project for BG.*
* **Foster Wheeler, Houston, TX - *Controls/Instrumentation/Electrical Engineer***07/2011 – 11/2013

As an electrical/instrumentation engineer, supported various of engineering projects from study phase to detailed design phase. Developed various engineering design specification for new products/design.

* + - * Participated in detailed design of *Gasoline Treating and Degassing Facility project for Enterprise.*
      * Participated in detailed design and construction of Delayed Coker project for BP Whiting.
      * Participated in detailed design of Diphenyl Oxide Capacity Expansion project for Dow.
      * Participated in detailed design of Delayed Coker project for Petron of Philippine.
      * Participated in BED design of Delay Coker System project for Petrobras of Brazil.
* **Corporate Prediction Limited, Connaught Group, Sheffield, UK** 12/2005 – 12/2007

***Financial Technical Developer in Data Processing and Credit Risk Analysis(part-time)***

* Led in the development of project*British Company Credit Risk Analysis.*
* Developed an innovative mathematical model for credit risk analysis.
* Performed data processing and risk analysis using SPSS, MATLAB, and other related machine learning and statistical software.

**Courses**

* Data Science Certificate – Bootcamp, Springboard
* Programming Language: Basic/Intermediate Python Programming, Basic/Intermediate SQL
* Data Structure/Database/Algorithm: Data Structure, SQL, The basics of Data for Analytics
* Computer Visualization: Data Visualization Fundamentals, Microsoft Office and Latex
* Statistics: Probability Theory and Statistics